

MATERIAL SAFETY DATA SHEET  
FOR COATINGS, RESINS, AND RELATED MATERIALS  
REPLACES NCPA 1-82

## MANUFACTURERS NAME

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## EMERGENCY TELEPHONE NO.

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## INFORMATION TELEPHONE NO.

## DATE OF PREPARATION

9/87

(803) 277-1870

## SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER: 16-F2-10 (BASE) / EC-123 (CURING SOLUTION) Mix Ratio: 1 to 1 by Volume  
PRODUCT NAME : Flat White Enamel, DN-0125  
PRODUCT CLASS : Epoxy Specification: DPM-110

## SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS #	%WT.	OCCUPATIONAL EXPOSURE LIMITS		VAPOR PRESSURE mm.Hg. @ 20°C
			TLV (ACGIH) (ppm) mg/cu.m.	PEL (OSHA) (ppm) mg/cu.m.	
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<u>BASE COMPONENT:</u>					
Epoxy Resin	25036-25-3	<15	NE	NE	NA
Titanium Dioxide	13463-67-7	<15		5*	15
Talc	14087-96-6	<15		2*	20 MPPCF
Xylene	1330-20-7	< 5	100	100	21
Methyl Ethyl Ketone	78-93-3	< 5	200	200	75
2-Ethoxyethylacetate	111-15-9	<15	5	100	2
2-Butoxyethanol	111-76-2	< 5	25	50	.6

CURING SOLUTION:

Organic Amine Complex		< 5	NE	NE	NA
Toluene	108-88-3	<10	100	200	22
Xylene	1330-20-7	<15	100	100	21
n-Butyl Alcohol	71-36-3	<10	50	100	5.5
Methyl Ethyl Ketone	78-93-3	< 5	200	200	75
Methyl Isobutyl Ketone	108-10-1	< 5	50	100	40
2-Butoxyethanol	111-76-2	< 5	25	50	.6

NA = NOT APPLICABLE

NE = NOT ESTABLISHED

\* = RESPIRABLE DUST

MPPCF = MILLION PARTICLES PER CUBIC FOOT

## SECTION III - PHYSICAL DATA

BOILING RANGE 170°F - 340°F VAPOR DENSITY XX HEAVIER LIGHTER THAN AIR  
EVAPORATION RATE FASTER XX SLOWER THAN ETHER 65 % VOLATILE VOLUME 9.6# WT/GAL

#### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION OSHA Class IB FLASH POINT 23 °F. TCC LEL 1.  
DOT Paint, Flammable Liquid, (UN1263)

EXTINGUISHING MEDIA: Use NFPA Class B extinguishers.

☒ FOAM ☐ "ALCOHOL"  
FOAM ☒ CO2 ☒ DRY CHEMICAL ☒ WATER FOG ☐ OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep containers tightly closed. Isolate from heat, sparks, electrical equipment and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. Self contained breathing apparatus should be worn by firefighters. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIREFIGHTING PROCEDURES: Water spray may be ineffective. If water is used, fog nozzles are preferred. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat.

#### SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Can cause irritation to skin, eyes, and respiratory tract. Symptoms may be watering of eyes, dryness of throat, coughing, headache, tightness in chest or burning sensation. Allergic reactions may occur in some individuals. Headache, dizziness or nausea may be experienced by some as a result of exposure to solvents.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: Persons with asthmatic type conditions, chronic bronchitis or other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with this product.

PRIMARY ROUTE(S) OF ENTRY: ☒ DERMAL ☒ INHALATION ☐ INGESTION

EMERGENCY AND FIRST AID PROCEDURES: Eye Contact: Flush with water for 15 minutes. Consult physician. Skin Contact: Wash affected area with soap and water. Remove contaminated clothing. Consult physician. Inhalation: Remove to fresh air. Consult physician. Ingestion: Drink water to dilute. Do not induce vomiting. Consult physician.

#### SECTION VI - REACTIVITY DATA

STABILITY: ☐ UNSTABLE ☒ STABLE

HAZARDOUS POLYMERIZATION: ☐ MAY OCCUR ☒ WILL NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS: By fire - CO, CO<sub>2</sub>, and nitrogen oxides.

CONDITIONS TO AVOID: Temperature above maximum storage temperature. Avoid exposure to heat, sparks, or open flames.

INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with strong oxidizing agents.

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## SECTION VII - SPILL OR LEAK PROCEDURES

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Evacuate non essential personnel. Remove all sources of ignition (sparks, flames, hot surfaces). Ventilate the area. Equip clean up crew with self contained breathing apparatus. Dike spill. Cover with sawdust, vermiculite, Fuller's earth. Collect material in open containers.

### WASTE DISPOSAL METHOD

Conform to federal, state, and local regulations. Empty containers must be handled carefully due to product residue and flammable solvent vapor.

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## SECTION VIII - SAFE HANDLING AND USE INFORMATION

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RESPIRATORY PROTECTION: In outdoor or open areas use NIOSH approved mechanical filter respirator. In restricted ventilation areas, use NIOSH approved chemical/mechanical filters to remove vapor and particulates. In confined areas use NIOSH approved air line type respirators or hoods.

VENTILATION: Must be sufficient in volume and pattern to keep contaminant concentration below TLV (NIOSH) or PEL (OSHA).

PROTECTIVE GLOVES: Required, butyl rubber recommended.

EYE PROTECTION: Required. Use goggles, face shields or safety eyewear with sideshields.

OTHER PROTECTIVE EQUIPMENT: Protective creams where skin contact is likely.

HYGIENIC PRACTICES: Wash hands before eating or using bathroom. Remove and wash contaminated clothing before reuse. Wear chemical resistant boots.

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## SECTION IX - SPECIAL PRECAUTIONS

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PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Do not store above 100°F. Store large quantities only in buildings designed to comply with OSHA 1910.106. Keep containers closed and upright to prevent leakage. Do not store or use near heat, sparks, or flames.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with vapor or spray mist during application or curing.

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## **Safety Precautions**

### **For Handling Epoxy and Urethane Resins**

*There are two components which make up most epoxy resin systems:*

1. *RESIN, with or without filler. (May be labeled "A" Component.)*
2. *HARDENER, fluid or paste-like consistency. (May be labeled "B" Component.)*

#### **Epoxy Resins**

There are several types of epoxy resins - some are safe to handle, others are less safe and should not contact the skin. Some individuals may show allergic tendencies with these materials and should follow precautionary measures noted below. Some resins may have diluents added to facilitate their processing, and these diluents may be irritating or noxious in odor. See section titled "Precautionary Measures."

#### **Epoxy Hardeners**

Hardeners, or curing agents as they are called, differ in their ability to cure resins, as well as their tendency to cause skin irritation or dermatitis. Most room temperature set hardeners are based on polyamides or aliphatic amines. If proper precautions are followed, hardeners can usually be handled without difficulty. Safety hardeners are now available, though occasionally an individual shows an allergic reaction to these. This usually appears only after repeated or prolonged contact with the hardener. The elevated temperature curing agents are generally aromatic amine or acid anhydrides. Most aromatic amines will tend to discolor the skin. See "Precautionary Measures."

#### **General Precautionary Measures**

*Note: These general precautions are applicable to handling the components of urethane systems as well as the handling of epoxies.*

1. Mix and apply materials in well ventilated areas, preferably with forced air draft to carry away fumes. Ovens used to heat cure epoxies should be safely ventilated to outside areas.
2. Avoid contact of materials with the skin. Wear protective clothing when material contact is anticipated. Long rubber or vinyl coated gloves with cloth interiors are suggested, and goggles or eye shields to protect the eyes if splashing of the material occurs.
3. Observe good personal hygiene. Avoid contaminating clothing or the inside of gloves. Use soap and warm water at frequent intervals to clean hands and DO NOT use strong cleaning solvents such as acetone or methylethylketone (MEK) which dissolve protective oils from the skin. If cleaning of epoxy resin from clothing is necessary, a 50:50 mixture of denatured alcohol and toluene is suggested. Use denatured alcohol only to clean hands or skin.
4. Maintain good housekeeping. Do not leave deposits of resins or hardeners on work areas, doorknobs, etc. Wipe off immediately with paper towels or rags. Use disposable mixing containers and throwaways wherever possible.
5. Some individuals find that the application of barrier creams to hands and face is desirable before beginning work. (West Disinfectant 411 and Kerodex are among acceptable creams. Your physician can recommend others.) Reapply barrier creams after washing hands.

6. If skin afflictions or irritations appear, qualified medical help should be obtained. The physician should be informed that skin irritation might have been caused by epoxy or urethane resins or hardeners. In uncomplicated cases, the skin irritations will disappear quickly. In serious cases, several days may be required. In general, irritations reappear when contact is resumed, unless adequate protection is used. Persons who are known to be particularly susceptible should be transferred to work which does not require the handling of these materials.

7. These materials are for PROFESSIONAL AND INDUSTRIAL USE ONLY and should be KEPT AWAY FROM CHILDREN.

8. If you have any doubts or questions, consult your physician. Do not handle these materials in the presence of existing skin irritations or respiratory problems.

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**Safety  
Precautions**

Urethane reaction materials which involve isocyanates are potentially hazardous in both the liquid and vapor states. They can act as irritants to the skin and mucous membranes, especially the eyes and upper respiratory regions. Particularly sensitive individuals may experience asthma-like attacks. Even concentrations below the odor threshold may affect sensitive persons who are subject to hay fever and asthma. If you suspect problems or show skin sensitivity, consult your physician. In addition to general precautions, the use of outside air-supplied respirators is recommended where vapor concentrations are high.

Skin exposure should be avoided, and accidental spills must be thoroughly removed by washing with soap and water. Eyes should be irrigated with large quantities of water and a physician consulted.

Certain resins and hardeners are considered more toxic than others. When necessary, in keeping with industry requirements, a special precautionary label is affixed as follows: "DANGER - Prolonged or repeated contact of liquid or breathing of vapors or mists may cause delayed and serious injury. Do not get on skin or clothing. Avoid inhalation of vapor or mists. In case of skin contact, wash thoroughly with soap and water. Remove contaminated clothing and wash thoroughly before reuse."

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**General  
Suggestions**

Specific notices, characteristics and properties are further described in the individual Technical Information Sheets, explanatory labels or Material Safety Data Sheets. These are available from Furane upon request.

It is recommended that experimental samples of urethane and epoxy resins and hardeners be evaluated before production applications commence. This will familiarize personnel with the curing and handling properties of the materials. For experimental or production use, the importance of cleanliness, protective clothing, and good ventilation must be emphasized.

In the event any individuals show any allergic tendencies to the materials used, consult your physician or plant safety department at once for professional advice.

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